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that truth relations as discovered are temporal. The truth $2 + 2 = 4$ may be eternal, however long was the evolution which led to its discovery. At any rate, there can be no such thing as pragmatic dogmatism.

A professed pragmatist may of course hold any of these doctrines, and a large number of them, either as his individual application of the pragmatic test or for other reasons. He may also, like myself, be an Episcopalian, a free-trader, etc. Do all the doctrines and practises of the Episcopal church become pragmatisms when a pragmatist belongs? I have known pragmatists to drink beer, to attend dime theatres, and even to swear. Are all such practises with their implied damnable theories of life therefore pragmatisms? And do they also come under *Scepticismus*, as the German critics would say? God forbid. It makes one's flesh fairly creep to think of all these uncanny associations—these sins on the part of our clever young critics, committed in the name of pragmatism. But are they not, after all, primarily sins against formal logic? A is a free-trader. A is a pragmatist. Therefore all pragmatists are free-traders. That looks very much like an illicit minor in the third figure. It might also be treated as a fallacy of composition. It would seem as though the "intellectualists" ought to have a little respect for formal logic.

If you say that in the above case pragmatism is not new at all, but as old as science, I would quite agree with you. No one more than the pragmatist has disavowed any intention at originality. It is better to be true than original. But the amount of dust raised seems to indicate that an old, implicit scientific procedure was but vaguely understood. If the result of this paper should be to convince my readers that they are all "pragmatists," then we shall have "peace on earth, good will to men" once more, than which no more blissful consummation could be desired, unless it be strife.

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REVIEWS AND ABSTRACTS OF LITERATURE

Logic, Inductive and Deductive. ADAM LEROY JONES. New York: Henry Holt & Co. 1909. Pp. x + 300.

In the preface the author states that the book "is not designed to serve as an introduction to general philosophy. Its chief claim to novelty is in the arrangement of the subject-matter. The traditional arrangement, in which the deductive processes are presented first usually leaves with the student the impression that the method is chiefly deduction, and that there is no very close connection between this and the rest of the subject. The arrangement, which is here adopted, was selected on pedagogical grounds and not in the interests of any epistemological theory."

The book is divided into three parts, entitled, respectively, "An Outline of Scientific Method," "Supplementary Methods," and "The Construction of Systems." By making the discussion of deduction subsequent to that of induction, Professor Jones successfully eliminates the evil of which he rightly complains. In this book the syllogism is more closely related than is customary to other parts of the subject and is deprived of undue importance. This achievement alone would entitle it to consideration. Moreover, the presentation employs a variety of apt illustrations which enables it to avoid the dead level of undisturbed monotony. While some parts follow the beaten path, as is natural in a subject like logic, the book has a certain freshness of treatment, and it offers a view of the subject that is commendably well-balanced and well-organized.

With regard to the arrangement of the subject-matter, it may be said that, while the plan of treating induction prior to deduction is in the main well executed, it involves a detail which is apparently both undesirable and unnecessary. The subject of induction follows upon the discussion of terms and propositions; and it jars one's sense of fitness, therefore, to find that before we can go on from induction to the syllogism we must once more discuss propositions, this time from the standpoint of conversion, obversion, and contraposition. I venture to add, also, that the author's remarks on the misuse of words seem more perfunctory than is consistent with the importance of the subject. A more serious criticism, however, can, as I think, be directed against the treatment of causation and coexistence. Here Professor Jones appears to have been entirely too submissive to the prevailing fashions. Causation is defined as an unconditional or necessary connection, and is properly distinguished from certain coexistences—such as that of gravity and inertia—which, though likewise universal, do not seem to be of a causal nature. The term "necessary," which is explicitly distinguished from "invariable" must be taken as synonymous with "unconditional," unless some mysterious connotation of a metaphysical character be intended. Professor Jones seems to mean that the terms are to be used as synonymous. But granted that causal connections are unconditional, this quality provides no differentia. Universal coexistences are quite as unconditional. The fact that two properties are universally concurrent means nothing in the world except that this concurrence is independent of all conditions. Incidentally, too, it may be remarked that, while the author says, speaking of gravity and inertia, "the sciences furnish innumerable instances of a like sort," in the very next sentence Bain is quoted as saying, "there are very few general laws of pure coexistence" (p. 83). Are these statements contradictory, or does the author mean to distinguish between coexistences and laws of coexistence?

With regard to the proof of these laws of coexistence, as distinct from laws of causation, the author contents himself with Bain's statement that they "can only be proved piecemeal; each stands on its own evidence of observation in detail; no one assists us to prove another." If it is permissible for logic in this instance to set aside a question of method by a reference to "observation," it is permissible in any other case as well. The manner in which the proof of universal connections is habitually ignored by logicians is one of the curiosities of present-day logic.

This matter of universal connections requires emphasis because it is connected with a traditional inconsistency in the treatment of causation. This inconsistency reappears in Professor Jones's exposition. As was stated a moment ago, cause is here defined as unconditional connection. Such a connection is necessarily a universal connection. That causation stands for a form of universal connection appears, further, from the fact that causation is referred to as a form of law; and a law, we are told, "states a universal connection which actually holds true" (p. 81). There is only one sense, however, in which a causal connection can be regarded as a universal connection. A causal connection is universal only when the cause is a "total cause." The definitions of cause frequently imply total cause. Yet the methods employed to ascertain causal connections are habitually used to study partial causes. The "method of difference," for example, merely enables us to analyze out some factor which is a constituent of the total cause. In this, the more popular sense of the term cause, the connection is by no means universal, unless the connection be vaguely interpreted as a "tendency." How a connection that is truly universal, in the sense of having no exceptions, is to be tested, is a question that receives no notice, because it is not properly distinguished from the study of causal connections.

In this general context I may be allowed to add that the author's device of treating statistics as a supplementary method argues a misconception of the function of numbers in the proof of causal connections. Thus the "method of difference" is by preference limited to a single case of respective presence and absence on the part of the factor that is studied. This single case, however, is in the main merely an ideal limit. The number of cases necessary to prove a causal connection varies in inverse ratio to our knowledge of the conditions. If we are confident that the conditions are entirely under our control, as in the case of some laboratory experiments, a single instance may suffice; yet even then, as Aikins has pointed out, we are unwilling to consider an important conclusion as proved, unless the experiment is repeated, either by ourselves or by others. This sharp separation of statistics not only obscures the service performed by numbers in the elimination of irrelevant considerations, but it inevitably suggests that the "method of statistics" introduces a new principle, instead of being merely an application of the "method of difference" to units consisting of groups instead of individual cases. The author, in fact, states that the "method of statistics" is a different method (p. 190), and that the cause discovered by *this* method is usually only a part of the entire cause (p. 193).

In the application of Mill's methods the author recognizes, apparently, that the directions furnished by the methods are essentially counsels of perfection; that, instead of relying upon exact conformity to the demands made by them, we, in fact, rely upon something quite different. An inductive inference is verified "when it fits the facts and no alternative inference does" (p. 88). This is both true and important, as far as it goes, but the author unfortunately does not attempt further analysis. When are we warranted in concluding that alternative inferences do not really fit the facts? The author invokes consistency, but consistency is a shifty term. It may mean absence of contradiction or it may mean absence of motivation. The doctrine that all doubt must be motivated, upon which Hobhouse rightly lays so much stress, and which has frequently been formulated, after a fashion, in courts of law, is apparently implied, but does not secure even a passing notice. This doctrine, furthermore, properly connects the subject of probability with completely established inference. Probability decreases with the degree of motivation. One may, therefore, doubt the expediency of treating probability as a supplementary method, as is done here; to say nothing of the advisability of placing all the emphasis upon the form of probability which is determined by the behavior of groups and which on this account lends itself to mathematical treatment. By isolating statistics and probability, the author gives the same false impression regarding the study of scientific laws as that against which he protests in the case of the syllogism.

Under the heading "Explanation" the question is raised (p. 239) whether, in the progressive reduction of knowledge to laws that are more simple and fundamental, the laws which constitute the limit of the process are to be regarded as inexplicable. The answer to the question is negative, for the reason that "reference to simpler and more fundamental laws is merely one method of bringing the data into a system." "The parts are explained," it is said, "by being given their proper places in the whole." Here, it seems, we may reasonably object that the author offers either too much or too little. The question should either not be raised, or the answer should be amplified so as to set forth in detail just what it means. In ordinary procedure the term explanation has a specific meaning because there is constant reference to laws which in the given situation are treated as ultimate. But when the attempt is made to eliminate everything that is ultimate we are on different ground, and we are then in duty bound to be specific or lay ourselves open to the suspicion that we are playing with the words "system" and "explanation."

As has been indicated, some of these comments make Professor Jones the scapegoat for the sins of his class. The criticisms, it is hoped, will not tend to obscure the genuine merits of the book, which make it a welcome addition to the literature of the subject.

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Logica Come Scienza del Concetto Puro. Filosofia dello Spirito, Vol. II. Second revised edition. BENEDETTO CROCE. Bari: Guis. Laterza & Figli. 1909. Pp. xxiii + 429.

La Critica, the bi-monthly review of which Croce is editor, is devoted to literature, history, and philosophy. Even more than the "Estetica,"